

What is claimed is:

1. An elastic wire assembly, comprising:
a non-conductive elastic core;
a woven conductor secured to the core; and
a non-conductive elastic sheath over the woven conductor.
2. The elastic wire assembly in accordance with claim 1, wherein the elastic core includes a plurality of polymer strands which can be deformed elastically.
3. The elastic wire assembly in accordance with claim 1, wherein the non-conductive elastic sheath includes a woven fabric.
4. The elastic wire assembly in accordance with claim 1, wherein the wire assembly can stretch elastically approximately 30% of the wire's relaxed length.
5. The elastic wire assembly in accordance with claim 1, wherein the electrical conductivity of the wire assembly remains approximately constant as the wire assembly is stretched elastically.
6. An RF diathermy coil, comprising:
a generally elastically deformable patient-conforming garment; and
a conductive coil secured to the garment, the conductive coil having a woven wire construction such that the coil can be deformed as the garment elastically deforms.

7. The RF diathermy coil assembly in accordance with claim 6, further comprising a woven RF shield connected to the garment, wherein the shield is disposed toward the exterior of the garment relative to the majority of the length of the coil.

8. The RF diathermy coil assembly in accordance with claim 6, wherein the conductive coil further comprises a non-conductive elastic deformable core.

9. The RF diathermy coil assembly in accordance with claim 8, wherein the elastic core includes a plurality of polymer strands which can form elastically.

10. The RF diathermy coil assembly in accordance with claim 6, wherein the coil further comprises a non-conductive elastically deformable sheath over the woven wire.

11. The RF diathermy coil assembly in accordance with claim 10, wherein the non-conductive sheath includes a woven fabric.

12. The RF diathermy coil assembly in accordance with claim 6, wherein the garment includes a polymer foam.

13. The RF diathermy coil assembly, comprising:
a primary coil, including a plurality of windings, the primary winding being connectable to a power source lead;

a secondary coil including a plurality of windings disposed proximate the primary coil;

means for tuning an RF field established by the windings.

14. The RF diathermy coil assembly in accordance with claim 13, wherein the means for tuning is for tuning the field to the resonant frequency of a patient's body part.

15. The RF diathermy coil assembly in accordance with claim 13, wherein the means for tuning includes a balun.

16. The RF diathermy coil assembly in accordance with claim 15, wherein the balun is connected to the primary coil.

17. The RF diathermy coil assembly in accordance with claim 13, wherein the means for tuning includes a tuning capacitor.

18. The RF diathermy coil assembly in accordance with claim 17, wherein the tuning capacitor is connected to the secondary coil.

19. The RF diathermy coil assembly in accordance with claim 13, wherein the secondary coil includes more windings than the primary coil.

20. The RF diathermy coil assembly in accordance with claim 13, further comprising a housing releasably connectable to the coils, the means for tuning disposed within the housing.

21. The RF diathermy coil assembly in accordance with claim 20, wherein the means for tuning include a tuning capacitor.

22. The RF diathermy coil assembly in accordance with claim 20, wherein the means for tuning includes a balun.

23. A method of medical treatment, comprising the steps of:
providing an RF diathermy device including, an RF coil connected to a patient wearable garment;
providing a muscle stimulator including a plurality of electrodes;
placing the garment on the patient;
activating the RF coil device to warm a wounded patient's body part to increase blood circulation therein;
placing the electrodes proximate the muscles at the wounded body part; and
stimulating the muscles of the patient at the body part to increase blood circulation therein.

24. A method of medical treatment in accordance with claim 23, wherein the device is applied to a wound.

25. A method of medical treatment in accordance with claim 23, wherein the device is applied to a patient's tissue to treat diabetic neuropathy.

26. A method of medical treatment in accordance with claim 23, wherein the device is applied to a patient's wrist to treat Carpal Tunnel Syndrome.

27. A method of medical treatment in accordance with claim 23, wherein the device is applied to a patient's tissue to treat Raynaud's disease.